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Kathryn A. Marra
Mail Code 482-C23-B21
300 Renaissance Center
P. O. Box 300
Detroit, MI 48265-3000

EXAMINER	
LANGEL, WAYNE A	

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/787,292
Filing Date: February 26, 2004
Appellant(s): VAJO ET AL.

Jennifer M. Woodside Wojtala
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 13, 2007 appealing from the Office action mailed January 18, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

This appeal involves claims 1-9, 12-16, 18-22, 24, 25, 27-30, 70, 73-84, 87-90, 92-98, 102-118, 121-129, 131-138, 178, 179 and 181-194.

Claims 10, 11, 17, 23, 26, 31-69, 71, 72, 85, 86, 91, 99-101, 119, 120, 130, 139-177 and 180 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 195-199 are withdrawn from consideration as not directed to the elected invention.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

US 6,471,936 B1 Chen et al 29 October 2002.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-9, 12-16, 18-22, 24, 25, 27-30, 70, 73-84, 87-90, 92-98, 102-118, 121-129, 131-138, 178, 179 and 181-194 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chen et al '936. No distinction is seen between the process and composition disclosed by Chen et al '936, and that recited in claims 1-9, 12-16, 18-22, 24, 25, 27-30, 70, 73-84, 87-90, 92-98, 102-118, 121-129, 131-138, 178, 179 and 181-194. Chen et al '936 discloses a solid state reaction between a carbon material and at least one alkali metal salt selected from the group consisting of nitrates, hydroxides, carbonates, halogenides, acetates, hydrides and nitrites. (See col.5, lines 24-56 and col. 10, lines 1-14.) Accordingly Chen et al '936 contemplates the combination of alkali metal hydroxides and hydrides during the reaction. Such alkali metal hydroxide and hydride would inherently react to form the

corresponding alkali metal oxide and hydrogen. In any event, it would be prima facie obvious to select alkali metal hydroxides and alkali metal hydrides as the alkali metal salts for the reaction of Chen et al '936, since Chen et al '936 suggest that any two of the named salts may be used in combination.

(10) Response to Argument

Appellants' argument, that Chen et al '936 lacks any description or suggestion to react a hydride composition with a hydroxide composition to form hydrogen, is not convincing, since appellants have not explained why the reaction between the alkali metal hydride and alkali metal hydroxide in the process of Chen et al '936 would not inherently form hydrogen. Appellants' original claim 81 provides evidence that the carbon present in the reaction mixture of Chen et al '936 would catalyze the reaction between the alkali metal hydride and alkali metal hydroxide to form hydrogen. Appellants' argument, that there is no suggestion in Chen et al '936 that mixtures or combinations of the alkali metal salts could, or more importantly, should be selected and used in an independent reaction, is not convincing. Chen et al '936 suggest at col. 5, lines 1-7 and col. 8, lines 58-61, for example, that mixtures of the alkali metal salts may be reacted. There is no requirement that Chen et al '936 suggest that mixtures should be reacted, since it is only necessary that the prior art fairly suggests doing what appellants' done, i.e., reacted an alkali metal hydride with an alkali metal hydroxide. Appellants' argument, that there is no disclosure or suggestion in Chen et al '936of producing hydrogen in the calcinations process where hydrogen is intentionally present as a reducing atmosphere, is not convincing, since Chen et al '936 discloses at col. 5,

lines 50-56 that the calcinations may be carried out in an inert atmosphere. Appellants' argument, that claim 111 requires a hydrogenated state and a dehydrogenated state, is not convincing, since the composition of Chen et al '936 would be in the dehydrogenated state after the calcinations. It is noted that claims 111 and 187 and the claims dependent thereon recite a composition comprising a hydride and a hydroxide, which is clearly disclosed or at least suggested at col. 8, lines 58-61 of Chen et al '936. These composition claims do not require the production of hydrogen.

Appellants' argument, that claims 28-30, 94-97 and 136-138 provide for specific combinations of hydride and hydroxide reactants in the specific reaction mechanisms, is not convincing, since Chen et al '936 specifically discloses at col. 8, lines 34-36 that the alkali metal may be sodium, lithium or a combination thereof.

Appellants' argument, that claims 107 and 108 require removing products, namely oxide and/or hydrogen products formed during the reaction, is not convincing, since one of ordinary skill in the art would be motivated to remove any reaction products formed to shift the equilibrium toward the production of more of the alkali metal-doped carbon-based material.

Appellants' argument, that in claims 109 and 110 the reaction is conducted in the presence of a catalyst, is not convincing, since the carbon present during the reaction of Chen et al '936 would catalyze the reaction to no less extent than would the carbon recited in appealed claims 81, 110 and 186, for example.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Wayne A. Langel

Conferees:

Stanley Silverman

Kathryn Gorgos
Appeal Conferee